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NEW SPECIES OF MELOIDAE (COLEOPTERA).

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Tetraonyx albipilosa n. sp.

Of the size, form and general appearance of a small *Tetraonyx fulva* Lec.; ochre colored, the antennae, apices of the femora and tibiae, tarsi and underside of the body black; densely clothed above with fine, erect, white pile. Head distinctly triangular, front finely and sparsely punctured, eyes prominent, antennae extending slightly behind hind margins of prothorax. Prothorax three-fifths as long as broad, finely and rather sparsely punctured, transversely impressed in front of scutellum, hind angles somewhat obtuse and blunt at apex. Elytra two-sevenths longer than broad, broadest behind middle, finely, rather closely and distinctly punctured. Length 9 mm. (from vertex of head to apices of elytra), breadth 4.5 mm.

Holotype (No. 2599, Mus. Calif. Acad. Sci.), a unique in the museum of the California Academy of Sciences, collected by Mr. J. O. Martin at Pecos, Tex., May 15, 1927.

This species which rather closely resembles *fulva* Lec. may always be distinguished by its ochre color and white pile, *fulva* Lec. and *femoralis* Dugés being orange colored and with orange pile. *Tetraonyx frontalis* Chevr. and *femoralis* Dugés also differ by having black faces and very dense punctuation and *frontalis* in addition by having entirely black legs. No described Mexican species could be confused with it.

Epicauta foxi n. sp.

Rather small and short, black with exception of small linear orange patch on front of head, disk of pronotum and elytra

rather sparsely furnished with very short and inconspicuous black hair, sides of head, sides, basal margin and triangular area at apex of prothorax, suture, lateral and apical margin of elytra, entire underside and basal three-fourths of femora clothed with rather long and conspicuous cinereous pile. Head quadrate, rather coarsely and sparsely punctured on front, more finely and closely near the eyes, somewhat shining, median longitudinal impression notched at vertex, finely impressed on front and triangularly impressed in front; eyes not prominent, long and narrow and with head deeply impressed along posterior margin; antennae rather short, extending backwards three segments beyond hind margin of prothorax, segments closely articulated and but slightly narrowed apically. Prothorax somewhat quadrate, broader than long, sides straight and parallel behind, broadly rounded in front, disk somewhat flattened, rather finely and closely punctured, very finely and closely so in triangular area in front, median longitudinal impression quite deep at center, vague impressions at sides. Elytra over twice as long as broad, surface finely granulate, the punctuation fine, hardly observable between the granules. Beneath rather finely and closely punctured. Length 10 mm., breadth 3 mm.

Holotype (No. 2600, Mus. Calif. Acad. Sci.) and three paratypes in the museum of the California Academy of Sciences, collected at Jacumba, San Diego Co., Calif., Oct. 3, 1295, by Mr. J. D. Gunder and presented to the Academy by the late C. L. Fox, after whom I take great pleasure in naming it.

The species like *impressifrons* Van Dyke, previously described in this journal, belongs in that peculiar and small group of *Epicauta* which includes besides these two, *caviceps* Horn, *rileyi* Horn and *straba* Horn, all characterized by being rather short and with the antennae scarcely more slender to tip, the segments cylindrical, the eyes narrow, emarginate in front, not over prominent and the vertex always definitely sulcate or at least notched. In color pattern, it resembles *alphonsii* Horn but the latter has the antennae more narrowed apically, the eyes broad, and the prothorax longer than wide and but sparsely punctured, placing it in a different group.

The following key will enable the members of the *caviceps* group to be separated.

1. Upper surface densely clothed with cinereous or slightly ochraceous colored pile.....2
Upper surface black or with but the margins cinereous.....4
2. Vertex and front of head deeply sulcate, the pronotum impressed near hind angles, suture of elytra somewhat elevated in front of middle. S. Ariz.....*caviceps* Horn
Vertex only notched, the front but finely grooved at most..3
3. Pronotum evidently impressed on either side, elytral suture distinctly elevated at middle. S. Ariz.....*rileyi* Horn
Pronotum evenly convex, elytral suture normally straight.
Palm Springs, Calif.....*impressifrons* Van Dyke
4. Entirely black, vertex notched, pronotum shallowly canaliculate but with large and rather deep impressions on either side. S. Calif.....*straba* Horn
Black with cinereous hair margining prothorax and elytra as well as clothing the underside, vertex notched, pronotum with well marked longitudinal impression at middle and with but vague impressions at sides. Jacumba, Calif..*foxi* n. sp.

***Lytta nigrocyanea* n. sp.**

Of large or moderate size, quite robust, subopaque, a deep indigo blue color, the antennae black, the legs bluish black, and a small spot on the front orange; head, prothorax and basal margin of elytra clothed with erect black hair. Head quadrate, rather coarsely punctured on the front, more finely and closely on the vertex and posterior angles, the vertex faintly notched at center; eyes slightly emarginate anteriorly; antennae extending several segments beyond base of prothorax, intermediate segments markedly unilaterally clubbed in males, less so in females, the seventh and eighth segments the largest in males. Prothorax broader than long and generally broader than head, broadest in front of middle, sides arcuate; disk slightly convex or flattened, with median longitudinal line well impressed at middle and at base, often with shallow lateral impressions, and moderately punctured at center and finely, closely punctured at sides. Elytra considerably broader than prothorax, two and a half times as long as broad, the surface deeply, more or less confluent punctate and cribrate, more finely so at sides. Beneath finely and moderately closely punctate, anteriorly clothed with fine, erect black pile. Outer spur of hind tibiae broad and concave, inner of equal length but spiniform. Length 15-20 mm., breadth 4-6.5 mm., average length 16 mm. and breadth 5 mm.

Males with pygidium broadly rounded at apex, fifth ventral triangularly emarginate at apex, front tibia with but one very

long and curved spine at apex, and hind trochanters with an acute spine. The antennae are longer and the intermediate segments slightly more enlarged than in the female.

Holotype male (No. 1601, Mus. Calif. Acad. Sci.) and several designated paratypes from a series of seven specimens collected at Palisade, Colo., May 7, 1901, and submitted to me by the Colorado Agricultural College at Fort Collins, Colo. Through the kindness of Dr. Gillette, the Holotype and one paratype will be deposited in the museum of the California Academy of Sciences. The remainder will be found in the collection of the Colorado Agricultural College.

This species according to Fall's key¹ would run close to *nuttalli* Say and *cyanipennis* Lec., which it resembles in general size and appearance, but differs in color, being of a uniform deep indigo blue, has the elytra much more evidently sculptured, and the front tibiae of the males with but one spine at apex whereas in the others there are two.

Lytta maculicollis n. sp.

Large and more or less cylindrical, somewhat shining; black, apical area of prothorax reddish orange, the markings generally in the shape of an inverted U, and an orange spot on the front of the head; quite glabrous above. Head well rounded in outline, rather finely, not closely punctured, the vertex faintly notched; eyes slightly emarginate in front; antennae robust, distinctly moniliform, extending three segments beyond base of prothorax, segments gradually narrower outwardly. Prothorax slightly longer than broad, narrower than head, the sides straight and somewhat convergent posteriorly, well rounded apically, disk barely convex, with median longitudinal line vaguely impressed if at all, and finely, irregularly and sparsely punctured. Elytra considerably broader than head, about two and a half times as broad, the surface finely reticulate. Beneath finely, moderately closely punctured in front, more sparsely on abdomen and clothed with fine pubescence in front. Outer spur of hind tibia stout, cylindrical, obliquely truncate at apex, the inner shorter and spinous. Length 14-22 mm., breadth 4-7 mm., average length 18 mm. and breadth 6 mm.

Males with pygidium truncate at apex, fifth ventral deeply triangularly emarginate at apex, front tibia with the usual

¹ Tr. Am. Entom. Soc., Vol. XXVII (1901), pp. 295-300.

pair of rather short spines at apex, and hind trochanters elliptical and without spines. The antennae of the males are longer than those of the female, with the segments 4-10 elongate elliptical, whereas they are shorter and more triangular in the females.

Holotype male, allotype female (Nos. 2602 and 2603, Mus. Calif. Acad. Sci.) and several designated paratypes in my collection from a series of thirty-eight specimens taken by myself from lupine near Panoche Creek in western Fresno Co., Calif., April 29, 1922. A paratype will be deposited in the U. S. National Museum at Washington.

This species, I had confused for some time with *Lytta molesta* Horn, a species to which it is rather closely related and which superficially resembles it and which moreover is to be found in its territory. *Lytta molesta* Horn is generally broader and more robust; with the head more quadrate; the prothorax much broader, flatter, subangulate at sides, the orange markings lateral; and the males with the hind trochanters definitely spined. The orange markings of *maculicollis* are quite variable. In a few specimens the apical two-thirds of the prothorax is orange, in most an inverted U-shaped spot is to be found, in others there are only lateral spots while in a few specimens, the prothorax is entirely black. These last might be confused with *Lytta insperata* Horn which they simulate but the spined hind trochanters of the males of the latter will separate them. *Lytta hoppingi* Wellm., another species of the same general territory, with bicolored prothorax, is narrower, with the prothorax more cylindrical and the orange spots of the same always lateral, as well as with the entire upper surface sparsely pilose.

Lytta auriculata Horn

This species is represented in the arid parts of the western San Joaquin Valley by a phase which is entirely unicolorous, also somewhat more of a bottle green than the more typical southern specimens.

Lytta lecontei Heyden

This name should replace that of *Lytta dichroa* (Lec.). LeConte named his species in 1853, but Fischer used the same name in 1823 for a species from southern Russia. Heyden in 1890

detected the duplication and suggested the name *lecontei* for LeConte's species.

Colospasta elegans (Lec.) and *Colospasta perpulchra* Horn

Upon critically examining my series of these two so-called species, I find that each not only varies considerably as to color but also as to sculpture and that they grade into each other in intermediate territory. Typical specimens of *perpulchra* as stated by Horn² have the head and prothorax quite smooth but others found with typical specimens have the same parts as evidently punctured as they normally are in *elegans*. There being no other good characters to separate them, I would in consequence class them as but one species. In the hills bordering the southwestern part of the San Joaquin Valley, there occurs an entirely blue phase. This, I would call the subspecies *cyanea* and designate as the Holotype (No. 2604, Mus. Calif. Acad. Sci.), a specimen collected on Mt. Pinos, eastern Kern Co., Calif., June 18, 1904, by Mr. Fordyce Grinnell. The head and prothorax in the three specimens which I possess are quite smooth as in *perpulchra*. I would indicate the various named phases of *elegans* as follows:

Colospasta elegans (Lec.)

var. *humeralis* Horn

subsp. *perpulchra* Horn

subsp. *cyanea* n. subsp.

Zonitis arizonica n. sp.

Narrow and elongate, subopaque, finely pubescent; testaceous, eyes, apices of mandibles, terminal segments of palpi, apices of femora and tibiae, greater portion of tarsi and abdomen black or piceous. Head triangular, tempora prominent, front rather coarsely, closely punctured; eyes large and convex, slightly emarginate in front, separated anteriorly by a distance equal to their width, beneath by only the narrow gula; antennae slender and long, two thirds the length of the body, segment two three fourths length of three, fourth but one fourth longer than three and subequal to fifth, sixth slightly longer and narrower, the following gradually shorter. Prothorax about as long as broad, flattened on disk sub-

² Notes on Coleoptera by George H. Horn, Proc. Am. Phil. Soc., Vol. XXIX (1891), pp. 99-102.

campanulate, broadest at base, sides sinuate just in front, thence almost parallel to beyond middle and oblique and slightly rounded to apex, densely rather coarsely punctured, with median longitudinal line vaguely impressed. Scutellum densely, finely punctured. Elytra about three times as long as broad, very densely, rather coarsely and more or less confluent punctured. Beneath slightly more shining, rather closely and finely punctured. Hind tibial spurs short, stout, concave and subequal. Length 11 mm., breadth 3.25 mm.

Male with fifth ventral impressed at apex, the sixth deeply triangularly emarginate.

Holotype (No. 2605, Mus. Calif. Acad. Sci.) and one paratype in the museum of the California Academy of Sciences, the first from six miles south of Florence, Ariz., July 23, 1924, the second from near Tucson, Ariz., Aug. 11, 1924, both collected by Mr. E. P. Van Duzee.

This species is in color, size and physical characters probably quite close to *Zonitis megalops*³ Champ. from Guatemala, but it differs in several ways. In the latter, there is a vague median vitta on the prothorax and scutellum, the antennae are somewhat annulated, and the femora are barred at the middle; in the antennae the second and third segments are subequal, fourth nearly twice the length of the third and the fourth to the sixth subequal; the prothorax longer than broad and finely punctured; and the elytra very densely and finely punctured. From the lighter phases of the two large eyed species of our own country which belong in the same group with it, it can be readily separated, *vittipennis* Horn having the prothorax and elytra very sparsely punctured and *longicornis* Horn, the elytra proportionally shorter and broader as well as much more finely punctured and the intermediate antennal segments shorter. Typical specimens of the two last can of course always be separated by their vittate markings.

³ Biol. Centr.-Amer., Coleopt., vol. IV, pt. 2 (Feb., 1892), pp. 386-387.